

ART. XVI.—*A Case of Poisoning by the Cyanide of Potassium.*

By A. B. ARNOLD, M. D., of Baltimore, Md.

THE symptoms of poisoning by the cyanide of potassium and prussic acid are said to be identical, but as these cases generally terminate very rapidly, little opportunity has been afforded to watch the course of the symptoms or to note the subjective sensations peculiar to the action of these poisonous agents. The following case, which happened in my own person, is therefore of some interest, since I well remember the manner I was affected when the poison first began to act, and also the agonizing struggle for life, which immediately preceded recovery. Various statements of the accident, which occurred some years ago, found their way into the daily press, but a full and reliable account of the case I had, for certain reasons, withheld from publishing till now.

I was sent for in the evening by Mr. G. Eckert, of this city, to attend his child, about two years old, for whom I prescribed a mixture containing two scruples of chlorate of potash. Early the next morning I was hastily summoned to see the child again, whom I found already dead on my arrival at the house. The nurse informed me that the child, on the previous evening, could not be induced to swallow any of the medicine which I had prescribed, but that about half an hour ago the child took a teaspoonful of it, which almost instantly caused convulsions and soon after death. While I was examining the corpse, noticing the white froth at the mouth, the very pallid countenance, and coolness of surface, the nurse suggested that the medicine might have killed the child, and that either myself or the apothecary had made a fatal mistake. At the same time she handed to me the phial containing nearly the whole of a two ounce mixture, which I repeatedly carried to my mouth, in order to determine by the taste of what it might be composed. I was still holding the phial in my hand when I began to feel a slight giddiness of the head and an inclination to yawn, to sigh, and to heave. Soon after I experienced some difficulty in using my lower jaw in the act of speaking. No further doubt remained now in my mind that I had tasted some deadly poison. I hurried to a drug store at the corner of the next street, which happened to be the same one where the medicine had been procured. On my way thither, which took me but a few minutes, all the symptoms I have mentioned increased, and when I reached the apothecary's my gait seemed to me to be unsteady. I called for a strong emetic and sat down on a chair. Mr. Löffler, the druggist, handed to me in a teacup a solution of tartar emetic and ipecac., which I had some difficulty to introduce into my mouth, and I distinctly recollect that I neither felt the usual taste of the drugs nor had any sensation of the act of swallowing. Mrs. Löffler, who was present at the time, told me

afterwards that I fell off the chair before I had finished drinking the emetic, that I turned blue in the face, and breathed slowly and heavily. It was about eight o'clock in the morning when I came to the drug store, and at two o'clock of the same afternoon I gave the first signs of returning consciousness. The medical attendant who first saw me told me that he found me lying on the floor in a deep stupor; a reddish froth covered my mouth and nose; my face looked livid and bloated; the pulse was hardly perceptible; respiration was heavy and laboured, and produced the blowing of bubbles at the mouth; urine and feces came away involuntarily. About two pints of blood were taken from my arm without any mitigation of the symptoms. I clearly recollect that some time before I had fully recovered from the effects of the poison, I struggled desperately for breath, and that the horrible conviction of impending suffocation, though ignorant of its cause, did not leave me for a single moment. About the same time I recognized the presence of my wife and brother, but the violence of the asthmatic symptoms prevented me from speaking to them. This dreadful smothering sensation seemed to me to have continued for a great length of time, though I learned afterwards that this stage lasted hardly thirty minutes. I also remember the effects of the pungent smell of carbonate of ammonia, which was held frequently to my nose, and I shall never forget the sensation of imminent suffocation which it produced. The efforts I made to prevent a repetition of it must have been wild and furious, for I recollect that my arms and legs were held tight by some of the bystanders while the ammonia was again applied. As soon as I felt the first disposition to vomit my consciousness was perfectly restored, and I have the indelible recollection of the anxiety I felt, lest the act of vomiting would smother me to death. The first ineffectual attempts at emesis did in fact increase the asthma. To my greatest joy, or rather surprise, the copious evacuation of the contents of my stomach, consisting of an undigested breakfast, was instantly followed by a complete cessation of all the symptoms. The relief was prompt and permanent. It is hardly to be presumed that the emetic I had taken five hours before caused the vomiting, and, besides, authors state that recovery is usually preceded by emesis.

The circumstance which led to the discovery of the kind of poison I had taken, and which cost the life of the druggist, is somewhat curious. It appears that when Mr. Eckert heard that I was lying at the point of death in Mr. Löffler's drug store, he came to see me, and brought the medicine with him which had proved fatal to his child. He accused Mr. Löffler of having poisoned the child, who in an excitable manner offered to swallow the contents of the phial, in order, as he said, to show that he made no mistake. Unfortunately he was permitted to drink nearly a table-spoonful of the mixture, and in a few minutes afterwards he fell down dead. The attending physicians examined now the prescription file of the pre-

vicious day, and found one over my signature, which read : Potass. chlor. $\mathfrak{D}\mathfrak{j}$, syr. gum acac. aqua anis, $\mathfrak{a}\mathfrak{a}$ $\mathfrak{z}\mathfrak{j}$.—M. S.—One teaspoonful every three hours. They next examined the contents of a glass jar which was labelled Potass. Chlorat., which was, however, empty, and the few grains of a dirty, whitish looking salt which they scraped from the bottom of the jar, bore no resemblance to the well-known crystals of the chlorate of potash. It was further discovered that another label was under the one which had P. C. written on it. This was brought to view after the top label had been detached by carefully wetting the paper, when the words Kali Cyanuret became distinctly legible. The whole mystery was subsequently fully explained by Mrs. Löffler, who stated that her husband had bought the drugs at second-hand from a German druggist, and was therefore not aware of the fact that the jar marked Potass. Chlor. had formerly contained the cyanide, some of which still stuck to the bottom of the jar; and that on the previous evening, when my prescription for chlorate of potassa came in, it required considerable scraping of the jar to make up the full amount of the drug.

It is impossible, under these circumstances, to determine the exact quantity of the cyanide which proved fatal to the child and the druggist, but its deadly effect in both these cases was fearfully rapid. In my own case I must evidently have taken considerably more than the highest medicinal dose, which is stated to be the five-sixths of a grain. Mr. Nunneley, who has reported a case similar to my own, in one of the English medical journals, conjectured that the immediate effects of poisonous doses of the cyanide of potassium act on the motory functions. This opinion seems to me to be correct, for my consciousness remained intact for some time after I had felt the stiffness of my lower jaw and difficulty in moving my lower limbs. It is, however, possible that the disturbance of the sensory functions may set in simultaneously with those of the motory, for the loss of taste of the emetic solution which I drank, I experienced but a few minutes after I had swallowed the poison. The violent form of asthma which preceded recovery in my case, and which has been uniformly observed in similar cases, is another symptom which lends weighty support to the opinion that the motor element of the respiratory function is originally affected by the poisonous action of prussic acid and its compounds—and if this be true, it may suggest a solution of the much-vexed question of the pathology of asthma. The temporary paralysis of the motor nerves, whether at their centric origin in the medulla oblongata, or along their distribution to the respiratory apparatus, from any cause whatever, would be sufficient to give rise to all the symptoms characteristic of true asthma. There can hardly be a doubt that the feeling of constriction about the chest, or the gasping for air, which has been witnessed in cases like my own, is but an abatement of the paralytic effects of the poison on the nerve-

centres, which supply the respiratory, and perhaps also the circulatory system, with adequate innervation.

[It may not be out of place to here call attention to the important observations of M. W. PREYER, noticed in our preceding number, p. 577, who asserts that the subcutaneous injection of sulphate of atropia, if made pretty quickly after the ingestion of prussic acid, is an *unfailing antidote*, provided a sufficient dose of the acid has not been taken to paralyze the heart.—EDITOR.]

ART. XVII.—*The Hypophosphites in the Toothache of Pregnancy.*

By W. H. STERLING, M. D., of Burlington, N. J.

A LADY under my care, in her first pregnancy, suffered most severely from toothache and facial neuralgia consequent upon the rapid decay of her teeth, which had previous to this event been very good, been kept with scrupulous care, and had not for years required any attention from the dentist, until about the fourth month of pregnancy, when they began to decay with great rapidity, so that in the course of a month seven were sufficiently decayed to need filling, and the neuralgic pain attendant upon their condition was such as seriously to affect her health.

The ordinary remedies having been used with but merely momentary relief, it occurred to me as her organization was highly nervous, and nature, with wise provision, ever takes care to supply the fœtus with proper and ample nutrition, even at the expense of the mother—that perhaps the bone and nerve-forming elements in her system were not sufficient to meet the wants of both mother and child, and hence the failure to provide for the molecular changes in the teeth, the material being used for the bony structure of the rapidly growing fœtus. Acting upon this theory, I prescribed the hypophosphites of lime, soda, and potassa, together with the hypophosphite of manganese (having previously given iron) in two grain doses each, three times daily, in the form of the glycerole. The relief was immediate and permanent, the pain entirely removed, and the decay of her teeth was arrested, and her general health was very much improved with the renewal of her physical strength and mental vigour.

BURLINGTON, N. J., December 5, 1868.